

Variation in Tasting Ability for PTC and Colour Blindness Among Chakali, an Andhra Caste

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ABSTRACT A sample of 200 individuals including 100 men and 100 women belonging to Chakali, a washermen caste was studied to know the variation in PTC tasting ability and in incidence of red green colour blindness. It registered the gene frequencies of *T* and *t* as 0.6838 and 0.3162, respectively and recorded 2% of proton colour blindness among men.

INTRODUCTION

The Phenylthiocarbamide (PTC) tasting ability and X-linked red green colour blindness are important markers in the studies of human variation. This paper reports the ability of PTC tasting and incidence of colour blindness among Chakali, which is traditionally a washermen community in Andhra Pradesh.

MATERIAL AND METHODS

The sample includes 100 men and 100 women belonging to Chakali caste inhabiting Visakhapatnam city and adjoining suburbans. Only unrelated individuals were surveyed for colour blindness by using Ishihara (1980) plates in day light. Individual PTC taste thresholds were determined by means of serial dilution method after Harris and Kalmus (1949).

RESULTS AND DISCUSSION

The sex-wise details of tasting of PTC and colour blindness are shown in table 1. Total of 20 non-tasters to PTC in a sample of 200

Chakali individuals are reported. The gene frequencies of *T* gene among males, females and among total population are 0.6683, 0.70 and 0.6838, respectively. The threshold mean for tasters in males is 8.48, the corresponding female threshold mean is 8.96 and combined mean of both the sexes is 8.72. The proton type of red green colour blindness is reported among Chakali men with 2.00% incidence. Women lack this X-linked colour vision defect. The present Chakali population is not deviated from the most of the tribal and caste populations of India (Naidu et al., 1988) in the incidence of colour blindness.

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Table 1: Details of tasting ability for PTC and colour blindness among Chakali

Particulars	Male (n = 100)	Female (n = 100)	Total (n = 200)
PTC Tasters	89	91	180
Non tasters	11	9	20
Gene frequencies T	0.6683	0.7000	0.6838
t	0.3317	0.3000	0.3162
Threshold Values of PTC			
$\bar{X} \pm SE$	8.48 $\pm$ 0.25	8.96 $\pm$ 0.30	8.72 $\pm$ 0.20
Colour Vision Normal	98.00%	100.00%	99.00%
Colour blind (Proton type)	2.00%	0.00%	1.00%